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10/727,941	12/04/2003	Antonio Gutierrez	2003L007	6980
7590 Infineum USA L.P. Law Department 1900 East Linden Avenue P.O. Box 710 Linden, NJ 07036-0710			EXAMINER LANG, AMY T	
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/727,941  
Filing Date: December 04, 2003  
Appellant(s): GUTIERREZ ET AL.

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Jacob M. Levine  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 11/07/2007 appealing from the Office action mailed 02/01/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on 11/07/2007 has been entered.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,869,919	RITCHIE	3-2005
6,583,092	CARRICK	6-2003
5,207,938	NALESNIK	5-1993

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6,784,143	LOCKE	8-2004
6,753,381	MISHRA	6-2004
4,804,794	VER STRATE	2-1989
4,286,567	UEDA	9-1981

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 5, 6-10, 13-15, and 19-22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 10, 11, and 16-21 of U.S. Patent No. 6,869,919 B2 (Ritchie). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following explanation.

US '919 discloses a lubricating oil composition utilized in diesel engines with an exhaust gas recirculation system. The composition comprises an olefin copolymer containing alkyl or aryl amine, or amide groups, or nitrogen containing heterocyclic groups or ester linkages. US '919 also discloses a nitrogen containing dispersant in the composition where the dispersant contributes from 0.10 to 0.18 wt. % of nitrogen to the lubricating oil composition.

Appellants' attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an

invention claimed in the patent. (underlining added by examiner for emphasis) *In re Vogel*, 422

F.2d 438,164 USPQ 619,622 (CCPA 1970).

Consistent with the above underlined portion of the MPEP citation, attention is drawn to where US '919 discloses the dispersant as a polyalkenyl-substituted mono- or dicarboxylic acid, ester, or anhydride reacted with polyamines (column 7, line 49 through column 8, line 9; column 11, line 59 through column 12, line 5). The polyalkenyl moiety has an Mw/Mn value of 1.5 to 2.0 (column 8, lines 28-36). Furthermore, US '919 discloses the dispersant as ashless, which therefore contains a sulfated ash content less than 0.5 wt. % (column 7, lines 52-54).

Claim 2 of US '919 discloses the polyalkenyl moiety of the dispersant with an average molecular weight from 1500 to 3000. Although US '919 does not disclose the ratio of mono- or dicarboxylic acid producing moieties per polyalkenyl moiety, it would have been obvious to use any moiety ratio including ones instantly claimed absent any showing of unexpected or surprising results.

Consistent with the above underlined portion of the MPEP citation, attention is also drawn to where US '919 further discloses the lubricating oil composition as a Group I, II, or III base stock (column 4, lines 44-46).

Furthermore, claim 18 of US '919 discloses the lubricating oil composition with 6 to 50 mmoles or phenate surfactant per kilogram of lubricating oil. Since US '919 does not specify the boron content in the dispersant, it is obvious that the content is zero. Additionally, US '919 does not specify the chlorine content, and only discloses the use of chlorine in one embodiment, therefore it would have been obvious to make the content zero.

Claims 1-4, 6-12, 14-16, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrick (US 6,583,092 B1) in view of Nalesnik (US 5,207,938).

Carrick discloses a lubricating oil composition for diesel engines (column 1, line 5; column 4, lines 25-35). The composition is comprised of Groups I, II, and III mineral oil base stocks, dispersants and viscosity index improvers (column 4, lines 37-52).

Carrick discloses the dispersants as a hydrocarbon substituted succinic acid or anhydride reacted with a polyamine, where succinic acid is a dicarboxylic acid (column 15, lines 1-32; column 16, lines 42-47; column 17, lines 30-33). The hydrocarbon substituent groups are derived from a polyalkene, specifically polyisobutene (column 17, lines 4-14). The polyalkene has a molecular weight from 700 to 2000 and a molecular weight distribution (Mw/Mn) from about 1.5 to about 5 (column 16, lines 52-59). Furthermore, the ratio of succinic groups to polyalkene substituents groups is disclosed as 0.9 to 2.5, which clearly overlaps the claimed moiety ratio from 1.3 to 1.7 (column 16, lines 47-52).

The nitrogen containing dispersant disclosed by Carrick is present in the lubricating composition at a concentration up to about 10% by weight (column 20, lines 55-61). Therefore, it is obvious for the wt. % of nitrogen from the dispersant to be greater than 0.08 wt. %. Furthermore, Carrick teaches the lubricating composition having a sulfur content no more than 0.02 wt. %, an ash content from 0.3 to 1.0 wt. %, and a chlorine content up to about 50 ppm, which is essentially chlorine-free (column 4, lines 3-24). Therefore, the dispersant must also contain the same ranges of elements as the lubricating oil.

The viscosity index improvers are disclosed in the composition as olefin copolymers, specifically a polymer of ethylene-propylene, grafted with maleic anhydride and then derivatized with an amine (column 23, lines 15-26). However, Carrick is silent as to the specific amine utilized.

Nalesnik discloses a viscosity index improver that is an olefin copolymer grafted with maleic anhydride and then derivatized with an amine, specifically the diaryl amine N-phenyl phenylene diamine. The mmole content of the diaryl amine is disclosed as 5.9 mmol (Example I, column 5). The total weight of the viscosity index improver is .2881 kg, and the viscosity index improver is added to a lubricating oil in an amount of 5 wt. % (Example I, column 5; Example IX, column 6, lines 33-34; column 2, lines 1-10). Therefore, the total amount of diaryl amine moieties in the lubricating oil composition is 1.02 wt. % ( $5.9\text{mmol}/.2881\text{kg} * .05\text{wt}\%$ ). It therefore would have been obvious for Carrick to use an aryl amine, such as N-phenyl phenylene diamine since it is common in the production of viscosity index improvers. Furthermore, Carrick discloses the olefin copolymer, from which the amine moieties are derived, with a molecular weight greater than 20,000, which clearly overlaps the instant claims 4 and 12. Therefore, one of ordinary skill would thereby obtain the invention as set forth in the presently cited.

Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrick (US 6,583,092 B1) in view of Nalesnik (US 5,207,938) and Locke (US 6,784,143 B2).

Carrick, as stated in paragraph 18 is incorporated here by reference, discloses a lubricating composition comprised of mineral oil, dispersants, and viscosity index improvers.

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Furthermore, Carrick discloses calcium phenate as a detergent additive to the composition (Table, column 27, line 55; column 25, lines 49-57).

Nalesnik, as stated in paragraph 18 is incorporated here by reference, discloses a lubricating composition comprised of diaryl amines reacted in a viscosity index improver.

Locke also discloses a lubricating oil composition for diesel engines (column 1, lines 3-8). Furthermore, the composition is comprised of Group I, II, or III mineral base stock mineral oil, dispersants, and viscosity index improvers (column 6, lines 36-38). The dispersants are disclosed as hydrocarbyl-substituted carboxylic acids reacted with a polyamine, where the substituent is polyisobutene (column 12, line 50 through column 13, line 5). The viscosity index improvers are polymers of ethylene-propylene grafted with maleic anhydride and then derivatized with an amine (column 13, lines 14-40). Therefore, the compositions disclosed by Carrick and Locke are very similar in composition.

Locke also discloses a calcium phenate-based detergent in amounts of 10 to 15 mmol of surfactant per kilogram of the oil composition, which clearly overlaps the instant claims 5 and 13 (column 11, line 62 through column 12, line 3). It therefore would have been obvious for Carrick to use the disclosed calcium phenate detergent in the content disclosed by Locke, since both lubricating compositions are very similar. Therefore, one of ordinary skill would thereby obtain the invention as set forth in the presently cited.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carrick (US 6,583,092 B1) in view of Nalesnik (US 5,207,938) and Mishra (US 6,753,381 B1).



Carrick, as stated in paragraph 18 is incorporated here by reference, discloses a lubricating composition comprised of mineral oil, dispersants, and viscosity index improvers. However, Carrick does not disclose the method by which the olefin molecule is derived.

Nalesnik, as stated in paragraph 18 is incorporated here by reference, discloses a lubricating composition comprised of diaryl amines reacted in a viscosity index improver.

Mishra teaches that it is common in the lubricant art to produce amorphous ethylene-propylene copolymer viscosity index improvers (column 3, lines 26-42). These copolymers are produced by simultaneously blending and shearing using conventional processing equipment (column 3, lines 13-20). The viscosity index improvers also consist of a blend of amorphous ethylene-propylene copolymers and semi-crystalline ethylene-propylene copolymers (column 6, lines 34-40). Furthermore, the copolymers are functionalized with graft monomers of maleic anhydride. Mishra also discloses copolymers that were sheared and blended with a SSI of 18.89 so that it would have been obvious to produce copolymers grafted with maleic anhydride with the same SSI value (column 8, lines 40-52). It therefore would have been obvious to produce the viscosity index improvers disclosed by Carrick by the known method disclosed by Mishra. Therefore, one of ordinary skill would thereby obtain the invention as set forth in the presently cited.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carrick (US 6,583,092 B1) in view of Nalesnik (US 5,207,938), Mishra (US 6,753,381 B1), and Ver Strate (US 4,804,794).

Carrick, as stated in paragraph 18 is incorporated here by reference, discloses a lubricating composition comprised of mineral oil, dispersants, and viscosity index improvers. However, Carrick does not disclose the method by which the olefin molecule is derived.

Nalesnik, as stated in paragraph 18 is incorporated here by reference, discloses a lubricating composition comprised of diaryl amines reacted in a viscosity index improver.

Mishra, as stated in paragraph 20 is incorporated here by reference, discloses a viscosity index improver produced by shearing and functionalizing copolymers. However, Mishra does disclose using conventional processing equipment to produce the copolymers, but does not specifically disclose a tubular reactor.

Ver Strate discloses that it is known in the art to use a tubular reactor to produce ethylene-propylene copolymers (column 2, lines 29-35). Copolymers formed by this method vary along their chain length, and therefore have a tapered structure. It therefore would have been obvious to produce the ethylene-propylene copolymers disclosed by Mishra with a tubular reactor. Therefore, one of ordinary skill would thereby obtain the invention as set forth in the presently cited.

Claims 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrick (US 6,583,092 B1) in view of Nalesnik (US 5,207,938) and Ueda (US 4,286,567).

Carrick, as stated in paragraph 18 is incorporated here by reference, discloses a diesel engine lubricating composition comprised of mineral oil, dispersants, and viscosity index improvers. Furthermore, Carrick discloses calcium phenate as a detergent additive to the composition (Table, column 27, line 55; column 25, lines 49-57).

Nalesnik, as stated in paragraph 18 is incorporated here by reference, discloses a lubricating composition comprised of diaryl amines reacted in a viscosity index improver.

Ueda discloses that diesel engines commonly have an exhaust gas recirculation system (column 3, lines 23-25). It therefore would have been obvious to use the composition disclosed by Carrick in a diesel engine with an exhaust gas recirculation system. Therefore, one of ordinary skill would thereby obtain the invention as set forth in the presently cited.

**(10) Response to Argument**

Applicant's arguments, filed 11/07/2007, with respect to the 35 USC 112 rejection of claims 4 and 12 have been fully considered and are persuasive. The rejection has been withdrawn.

Applicant's arguments filed 11/07/2007 have been fully considered but they are not persuasive.

Specifically, appellant argues (A) that US 6,869,919 B2 (Ritchie) and the instant application are commonly owned so that US '919 does not qualify as prior art under USC Section 102(e).

With respect to argument (A), the 35 USC 102(e) rejection of Ritchie has been withdrawn.

Specifically, appellant argues (B) that Ritchie ( US 6,869,919) does not overlap the specified claims since Ritchie does not specify the functionality of the dispersant.

With respect to argument (B), Ritchie discloses the polyamine used to form the dispersant as triethylene tetramine (column 12, line 15) which overlap the polyamines disclosed in the instant specification (see page 18, lines 14-16). Since the polyalkenyl-substituted compound of Ritchie also overlaps the instant claims and is reacted with the triethylene tetramine to produce the dispersant, it is the examiner's position that the produced dispersant would therefore also comprise the instantly claimed functionality or be rendered obvious. Furthermore, Ritchie discloses the functionalized polymer as reacted with the polyamine, to produce the dispersant, using conventional methods described in US 4,234,435, US 5,229,022, and EP-A-208,560 (column 12, lines 35-38). Since the instant specification recites the same patents for the conventional method described, it would have been obvious for the dispersant of Ritchie to also comprise the same nitrogen functionality as is instantly claimed.

Specifically, appellant argues (C) that the Mack T-11 test disclosed in the instant specification provides evidence to overcome the rejection of US 6,583,092 B1 (Carrick).

With respect to argument (C), the instant specification only teaches wherein the two comparative compositions that failed the Mack T-11 test (received a score less than 6) were Comp. 2 and Comp. 3. However, the measured results of the Mack T-11 test for Comp. 3 are not even disclosed so that it is the examiner's position that this comparative composition is not persuasive. Furthermore, Comp. 2 is disclosed as unsatisfactory since it comprises a "low molecular weight dispersant" (page 36) and Comp. 3 is disclosed as unsatisfactory since it comprises a "low molecular weight DPA" (page 36), which corresponds to a low molecular weight olefin copolymer. However, since the appellant did not disclose what constitutes as a

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"low molecular weight" the comparative examples are not found persuasive. A low molecular weight could still overlap the claimed ranges and be lower than the inventive example, Inv. 1. Additionally, the example does not compare the claims to the closest prior art of reference (Carrick).

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Amy T Lang/

Examiner, Art Unit 3731

Conferees:

Todd Manahan, Marc Jimenez

/Todd E Manahan/

Supervisory Patent Examiner, Art Unit 3731

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TQAS TC3700